



Remarks

Table 1 has been amended to indicated SEQ ID: NOs for the sequences. Errors in the sequences have been corrected, support being found in the listing of pages 17 and 18, the table being consistent with that listing, both as to the nature of the receptor and the amino acid sequence.

Attached hereto is a marked-up version of the changes made to the specification by the current amendment. The attached page is captioned "Version with Markings to Show Changes Made."


The specification is amended to incorporate a substitute sequence listing that complies with the sequence rules, 37 C.F.R. §§ 1.821 - 1.825. The printed Sequence Listing is identical to the Sequence Listing submitted in machine-readable form. This paper is submitted to comply with the United States Patent and Trademark Office rules governing gene sequences. No new matter is added.

In the unlikely event that the transmittal letter is separated from this sequence listing and the U.S. Patent Office determines that an extension and/or other relief is required, applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this sequence listing to our Deposit Account No. 03-1952. However, the Assistant Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: April 10, 2002

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Version with Markings to Show Changes Made

In order to determine the region on the external domain of a cell surface receptor that is involved in receptor internalization, a sequence similarity comparison was performed. The comparisons were performed with the commercially available Wisconsin Package, version 8.0-open VMS, Genetics Computer Group. The complete receptor sequences were obtained from public databases, as previously described in the "Database References for Nucleotide and Amino Acid Sequences."

The similarity is based on the evolutionary distance between amino acids, as measured by Dayhoff and normalized by Gribskov and Burgess (1986) *Nucl. Acids Res.* 14:6745-6763. The "local homology" algorithm of Smith and Waterman (1981) *Advances in Applied Mathematics* 2:482, 282-289 finds the best segments of similarity between the two sequences.

A similarity search between SEQ ID NO: [I] 1 and amino acid sequences of the cell surface receptors outlined herein was done, and the regions outlined above were identified, as shown in the table below.

Table 1: Peptides – modulators of cognate receptor activity

Receptor	Sequence	SEQ ID:NO
IR	KTDSQILKELEESSFRKTFEDYLH	<u>SEQ ID:NO 3</u>
IGF-IR	[ERETQIAKGNEQSFRVDLRTLRL] KTEAEKQAEKEEAERYKVFENFLH	<u>SEQ ID:NO 5</u>
TPO-R	ARGGTLELRPRSRYLQLRARLN	<u>SEQ ID:NO 10</u>
EPO-R	QRVEILEGRTECVLSNLRGRTRY	<u>SEQ ID:NO 11</u>
PDGF-R	EITTDVEKIQEIRYRSKLKLI	<u>SEQ ID:NO 27</u>
VEGF-R	EARCDFCSNNEESFILDADSNM	<u>SEQ ID:NO 28</u>
GH-R	EYELQYKEVNETKWKMMDPILTTSVPVY	<u>SEQ ID:NO 9</u>
PRL-R	EWEIHFAGQQTEFKILSLHPGQKYL	<u>SEQ ID:NO 35</u>
OB-R	KKENKIVPSKEIVWWMNLAEKIP	<u>SEQ ID:NO 6</u>
EGF-R	GPHCVKTCPAGVMGENNTLVWKY	<u>SEQ ID:NO 8</u>
LDL-R	EAEAAVATQETSTVRLKVSSTAVRT	<u>SEQ ID:NO 4</u>
Tf-R	EKTDRFVMKKLNDVRMRVEYHFLSPY	<u>SEQ ID:NO 34</u>
CNT-R	TWQTPSTWPDPEFPLKFFLRY	<u>SEQ ID:NO 29</u>

GLUT-4	[ERETQIAKGNEQSFRVDLRTLRL] TWLGRQGPEGPSSIPPGTLTTLW	<u>SEQ ID:NO 2</u>
TC-Ra	DSQTNVSQSKDSDVYITDKTVL	<u>SEQ ID:NO 30</u>
TC-Rp	EWTDQDRAKPVTQIVSAEAWGRADC	<u>SEQ ID:NO 31</u>
TC-Ry	SQEGNTMKTNDTYMKFSWLTVPESLDKEHRCI	<u>SEQ ID:NO 32</u>
TC-R8	VRH VHTEKVNMMSLTVLGLRMLF	<u>SEQ ID:NO 33</u>
IL-2Ra	EMQSPMQPVDQASLPGHCREPPPW.	<u>SEQ ID:NO 12</u>
IL-2RP	DPDEGVAGAPTGSSPQPLQPL	<u>SEQ ID:NO 13</u>
IL-3R	QEEGANTRAWRTSLIALGTLL	<u>SEQ ID:NO 14</u>
IL-4R	EPSLRIAASTLKSGISYRARVRAWAQC	<u>SEQ ID:NO 15</u>
IL-5R	DYETRITESKCVTILHKGFSASVRTILQ	<u>SEQ ID:NO 16</u>
IL-6R	PAQEVARGVLTSLPGDSVTL	<u>SEQ ID:NO 17</u>
IL-7R	GKSNICKVKVGEKSLTCKKIDLTIVK	<u>SEQ ID:NO 18</u>
IL-8Ra	EVLGNDTAKWRMVLRLPHTF	<u>SEQ ID:NO 20</u>
IL-8RP	EDMGNNTANWRMILLRLPQSF	<u>SEQ ID:NO 19</u>
IL-9R	ELDPGFIHEARLRVQMATL	<u>SEQ ID:NO 21</u>
IL-IIR	EVITDAVAGLPHAVRVSARDFL	<u>SEQ ID:NO 22</u>
IL-12R	EQPTQLELPEGCQGLAPGTEVTYRLQLHML	<u>SEQ ID:NO 23</u>
IL-13Ra	KQDKKIAPETRRSIEVPLNERI	<u>SEQ ID:NO 25</u>
IL-13RP	EWSDKQCWEGEDLSKKTLLRFW	<u>SEQ ID:NO 24</u>
IL-17R	DPNITVETLEAHQLRVSTLWNETHYQILLTSF	<u>SEQ ID:NO 26</u>

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A similarity search between SEQ ID NO:1 and amino acid sequences of the cell surface receptors outlined herein was done, and the regions outlined above were identified, as shown in the table below.

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VEGF-R	EARCDFCSNNEESFILDADSNM	SEQ ID:NO 28
GH-R	EYELQYKEVNETKWKMMDPILTTSPVY	SEQ ID:NO 9
PRL-R	EWEIHFAGQQTEFKILSLHPGQKYL	SEQ ID:NO 35
OB-R	KKENKIVPSKEIVWWMNLAEKIP	SEQ ID:NO 6
EGF-R	GPHCVKTCPAGVMGENNTLVWKY	SEQ ID:NO 8
LDL-R	EAEAAVATQETSTVRLKVSSTAVRT	SEQ ID:NO 4
Tf-R	EKTDRFVMKKLNDRVMRVEYHFLSPY	SEQ ID:NO 34

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GLUT-4	TWLGRQGPEGPSSIPPGTLTTLW	SEQ ID:NO 2
TC-Ra	DSQTNVSQSKDSDVYITDKTVL	SEQ ID:NO 30
TC-Rp	EWTQDRAKPVTQIVSAEAWGRADC	SEQ ID:NO 31
TC-Ry	SQEGNTMKTNDTYMKFSWLTVPESLDKEHRCI	SEQ ID:NO 32
TC-R8	VRH VHTEKVNMMSLTVLGLRMLF	SEQ ID:NO 33
IL-2Ra	EMQSPMQPVDQASLPGHCREPPPW	SEQ ID:NO 12
IL-2RP	DPDEGVAGAPTGSSPQPLQPL	SEQ ID:NO 13
IL-3R	QEEGANTRAWRTSLIALGTLL	SEQ ID:NO 14
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IL-IIR	EVITDAVAGLPHAVRVVSARDFL	SEQ ID:NO 22
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IL-13Ra	KQDKKIAPETRRSIEVPLNERI	SEQ ID:NO 25
IL-13RP	EWSDKQCWEGEDLSKKTLLRFW	SEQ ID:NO 24
IL-17R	DPNITVETLEAHQLRVSF TLWNETHYQILLTSF	SEQ ID:NO 26